

TABLE 48

Domestic R&D paid for by the company's foreign subsidiaries and performed by the company, by type of R&D, industry, and company size: 2019

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total ^a	Basic research ^b	Applied research ^b	Development ^b
All industries	21-23, 31-33, 42-81	27,117	1,005	2,861	23,251
Manufacturing industries	31-33	19,475	901	2,381	16,193
Food	311	129 i	9 i	9 i	110 i
Beverage and tobacco products	312	8	1	1	6
Textile, apparel, and leather products	313-16	8	0	7	1
Wood products	321	0	0	0	0
Paper	322	0	0	0	0
Printing and related support activities	323	0	0	0	0
Petroleum and coal products	324	74 - 170	20 - 39	54 - 75	0 - 78
Chemicals	325	5,011	759	666	3,585
Basic chemicals	3251	19	0 - 14	0 - 14	6
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	0 - 16	0 - 16	*	0 - 16
Pesticide, fertilizer, and other agricultural chemicals	3253	73 - 490	73 - 186	0 - 135	0 - 188
Pharmaceuticals and medicines	3254	4,490	574	532	3,383
Soap, cleaning compound, and toilet preparation	3256	14	0 - 5	0 - 5	10
Paint, coating, adhesive, and other chemicals	3255, 3259	0 - 399	0 - 76	0 - 135	0 - 188
Plastics and rubber products	326	4	*	*	3
Nonmetallic mineral products	327	2	0 - 1	0 - 1	2
Primary metals	331	*	0	0	*
Fabricated metal products	332	9	0 - 5	0 - 5	5
Machinery	333	33	0 - 5 i	0 - 5 i	29
Agricultural implement	33311	8	*	*	7
Semiconductor machinery	333242	3	0	0	3
Engine, turbine, and power transmission equipment	3336	8	0	0	8
Other machinery	other 333	14	0 - 5 i	0 - 5 i	10
Computer and electronic products	334	13,501	81	1,602	11,817
Communications equipment	3342	3,593 - 3,767 i	1	0 - 1,238	2,354 - 3,766 i
Semiconductor and other electronic components	3344	964	33	144	787
Navigational, measuring, electromedical, and control instruments	3345	218	0 - 33	2 - 35	184
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	74	1	1	72
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	17 i	* i	2 i	15 i
Other measuring and controlling device	other 3345	127	0 - 31	0 - 31	97
Other computer and electronic products	other 334	8,554 - 8,725	12 - 48	185 - 1,457	7,078 - 8,494
Electrical equipment, appliances, and components	335	86	1	3	81
Transportation equipment	336	196	11	14	171
Motor vehicles, bodies, trailers, and parts	3361-63	144	10	14	120
Aerospace products and parts	3364	52 i	*	*	51 i
Aircraft, aircraft engine, and aircraft parts	336411-13	52 i	*	*	51 i
Guided missile, space vehicle, and related parts	336414-15, 336419	*	0	0	*
Military armored vehicle, tank, and tank component	336992	0	0	0	0
Other transportation	other 336	0	0	0	0
Furniture and related products	337	4 - 83	0	5	0 - 78
Miscellaneous	339	319 - 398	4	4	311 - 389

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(Millions of U.S. dollars)

Industry and company size	NAICS code	Total ^a	Basic research ^b	Applied research ^b	Development ^b
Medical equipment and supplies	3391	320	4	4	312
Other miscellaneous manufacturing	3399	0 - 78	0	0	0 - 78
Nonmanufacturing industries	21–23, 42–81	7,642 i	104	479 i	7,058 i
Mining, quarrying, oil and gas extraction, and support activities	21	96	5 - 16	0 - 92	0 - 92
Utilities	22	0 - 7	0 - 7	0	0
Wholesale trade	42	0	0	0	0
Electronic shopping and electronic auctions	454111–12	195 - 1,173	0	195 - 290 i	0 - 965 i
Transportation and warehousing	48–49	2 - 969	1	2	0 - 965
Information	51	5,095 i	47	128 i	4,921 i
Publishing	511	829 i	15 i	81 i	734 i
Newspaper, periodical, book, and directory publishers	5111	0	0	0	0
Software publishers	5112	829 i	15 i	81 i	734 i
Telecommunications	517	8	*	0	8
Data processing, hosting, and related services	518	255	26	31	197
Other information	other 51	4,003 i	6	16	3,982 i
Finance and insurance	52	1,036	0	0	1,036
Real estate and rental and leasing	53	0	0	0	0
Lessors of nonfinancial intangible assets (except copyrighted works)	533	0	0	0	0
Other real estate and rental and leasing	other 53	0	0	0	0
Professional, scientific, and technical services	54	240	42	61	138
Architectural, engineering, and related services	5413	41	1	2	38
Computer systems design and related services	5415	78	1	3	74 i
Scientific research and development services	5417	94	25	55	14
Research and development in biotechnology	541711	8	1	6	2
Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	86	24	49	13
Research and development in the social sciences and humanities	541720	0	0	0	0
Other professional, scientific, and technical services	other 54	28	15	1	11
Health care services	621–23	0	0	0	0
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	0 - 31	0	0	0 - 31
All companies (number of domestic employees)	–	27,117	1,005	2,861	23,251
Small companies					
10–19 ^c	–	48	23	5	20
20–49	–	115	13	37	65
Medium companies					
50–99	–	240	25	24	192
100–249	–	560	116	69	375
Large companies					
250–499	–	303	14 i	87	202
500–999	–	928	42	83	803
1,000–4,999	–	2,401	134 i	283	1,983
5,000–9,999	–	1,318	197	227	894
10,000–24,999	–	3,306	339	123	2,844
25,000 or more	–	17,897	103	1,921	15,873 i

* = amount < \$500,000; i = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2012 North American Industry Classification System.

^a Statistics are based on companies in the United States that reported to the survey. No systematic item imputation was applied. These statistics include an adjustment to the weight to account for unit nonresponse.

^b Respondent was not asked to report categorical breakouts of research and development paid for by foreign subsidiaries. Rather, ratios of the company's basic research, applied research, and development were calculated as proportions of the overall domestic R&D performance paid for by the company. These ratios were applied to the company's domestic R&D performance paid for by foreign subsidiaries to get estimates of a company's basic research, applied research, and development paid for by foreign subsidiaries.

^c The Business Enterprise Research and Development Survey does not include companies with fewer than 10 domestic employees.

Note(s):

Detail may not add to total because of rounding. Industry classification is based on the dominant business code for domestic R&D performance, where available. For companies that did not report business codes, the classification used for sampling was assigned. Beginning in survey year 2018, statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D. This change has affected the comparability of these estimates with estimates published for years prior to 2018. An estimate range may be displayed in place of a single estimate to avoid disclosing operations of individual companies.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2019.